

REMARKS

This is in response to the Office Action dated January 22, 2009. With this response, claims 1-3, 5-16 and 18-22 are amended, claim 4 is cancelled, and all pending claims 1-3 and 5-22 are presented for reconsideration and favorable action.

In the Office Action, claim 2 was rejected under 35 U.S.C. § 112. That claim has been amended and it is believed that the rejection may be withdrawn.

The claims were rejected under 35 U.S.C. § 103 based upon Afanassieva (US 2001/0048077) in view of Eguchi (US 4,922,104) along with Stapleton (US 5,803,082), Dukor et al. (US 2002/0164810) or Doyle (US 5,818,996). It is believed that the pending claims are patentably distinct from these references.

Regarding claim 1, that claim contains elements which are not shown in Afanassieva, Eguchi, Stapleton, Dukor or Doyle as follows:

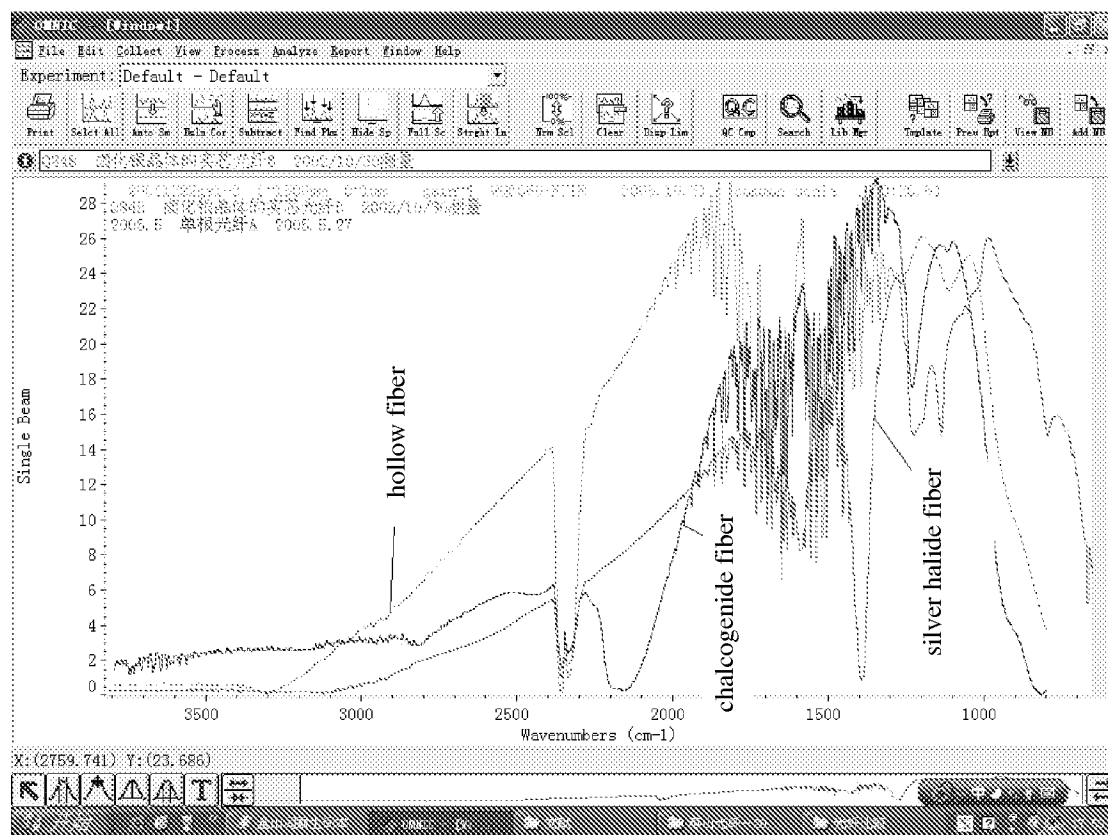
an infrared detector part comprising an abaxial parabolic mirror, a detector and a 3-dimensional tuning holder;
a data processor for ... comparing the processed infrared spectral data with a tumor database to diagnose the properties and the degree of pathologic change of the tested gland tumor;
the mid-infrared fiber sampling attachment includes ... a ZnSe or Ge ATR probe, each of the mid-infrared incident and exiting fibers is a hollow fiber with multiple layers of different coatings on its inside wall, and the ATR probe is of a tapered shape or cylindered shape with an inclined section;
the fiber coupling part includes two pieces of abaxial parabolic mirrors, as well as reflection mirrors and a precise fine-tuning mechanism for adjusting the parabolic mirrors.

Actually, Eguchi discloses the abaxial parabolic mirror in the infrared detector part but not the two abaxial parabolic mirrors in the fiber coupling part. Thus, the Applicant respectfully disagrees that Eguchi teaches the use of two abaxial parabolic mirrors in the fiber coupling part.

Afanassieva only discloses that only two pictures are compared, one is normal, the other is premelanoma (paragraph [0058]). However, in the present invention, a huge database is established with about 20 thousand spectra for many tissues, such as mammary glands, parotid

glands, thyroid glands, kidney, lung, stomach, liver, gallbladder, intestine, womb, finger and skin. There are a lot of parameters influencing the spectrum of the reflected mid-infrared light, for example, different tumors of the same individual, different positions of the tumors, and even different positions on the same tumor. Therefore, the simple comparison between two spectra will not provide enough information to make the diagnosis. Thus, the Applicant respectfully holds that the normal picture proposed by Afanassieva is inferior to the database in the present invention, and the establishment of the database will also involve inventive labors.

Afanassieva requires a Silver Halide fiber used as the probe. However, in the present invention, a ZnSe or Ge ATR probe is used and the fibers are all hollow fibers with multiple layers of different coatings on their inside walls. Furthermore, the present invention limits the tip shape of the probe as a tapered shape or cylindered shape with an inclined section. The following figure shows the performance comparison between the hollow fiber, the Silver Halide fiber, and the chalcogenide fiber. The Applicant respectfully holds that the material of the probe and the structure of the hollow fiber cannot be anticipated without any inventive labor from Afanassieva, Eguchi, Stapleton, Dukor and Doyle.



It is clear that hollow fiber has the best infrared transmission performance from the above figure.

Doyle discloses a hollow metallic light guide 5 in Fig. 2. However, this lightguide 5 cannot be bent and would be non-applicable in the system disclosed by Afanassieva. Therefore, the Applicant respectfully disagrees that Doyle's metallic light guide 5 corresponds to the hollow fibers in the present invention.

In conclusion, the Applicant respectfully requests the Examiner to reconsider the amended claims to be patentable over Afanassieva, Eguchi, Stapleton, Dukor and Doyle.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue, or comment, including the Office Action's characterizations of the art, does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been

expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation. Applicant reserves the right to prosecute the rejection claims in further prosecution of this or related applications.

In view of the above amendments and remarks, it is believed that the present application is in condition for allowance. Consideration and favorable action are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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